

ABSTRACT OF THE INVENTION

A magnesium-based hydrogen storage material including magnesium or a magnesium-based hydrogen storage alloy and a hydrogen desorption catalyst which is insoluble in said magnesium-based hydrogen storage alloy and is in the form of: 1) discrete dispersed regions of catalytic material in the bulk of said magnesium or magnesium-based hydrogen storage alloy; 2) discrete dispersed regions on the surface of particles of said magnesium or magnesium-based hydrogen storage alloy; 3) a continuous or semi-continuous layer of catalytic material on the surface of said magnesium or magnesium-based hydrogen storage alloy which is in bulk or particulate form; or 4) combinations thereof. Methods of producing the material are also disclosed.